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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,423	11/21/2003	Eric R. Hansen	204560-73806	3387

7590 02/09/2005

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EXAMINER

LU, JIPING

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/719,423	Applicant(s) HANSEN ET AL.	
	Examiner Jiping Lu	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 31-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 26-28, 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Branvold (U.S. Pat. 3,584,850).

Brandvold shows a mineral lime (CaO) processing inclined rotary kiln 12 with a lower combustion air end 14b and an upper material feed end 14a, 18, 20d. An air inlet opening 24e is located between two ends. A preheater or precalcining assembly 22a (incoming mineral passes inlet chute 20d and is indirectly preheated by the exiting hot flue gas 28 in vessel 22a) is positioned proximate to the upper end 18. A stationary hood 14k is positioned proximate to the combustion air inlet lower end 14b and a burner 16a is proximate to the combustion air inlet lower end 14b. For claim 31, a mineral feed assembly 22a is operable to heat lime mineral and thereafter advance the lime mineral into the upper end of the rotary vessel 18. It is noted that the incoming mineral passes inlet chute 20d and is indirectly heated by the exiting hot flue gas 28 in vessel 22a.

3. Claims 26-28, 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Tutt et al (U. S. Pat. 5,375,535).

Tutt shows a mineral lime (CaO) processing inclined rotary kiln 16 with a lower combustion air end 36 and an upper material feed end 12, 20. An air inlet opening 56-60 is located between two ends. A preheater or precalcining assembly (at 20, 22 by indirect heat exchange between hot flue gas 40 and incoming mineral 20) is positioned proximate to the upper end 16 prior to the rotary vessel 24, 28. A stationary hood 32 is positioned proximate to the combustion air inlet lower end 28 and a burner 33 is proximate to the combustion air inlet lower end 34. For claim 31, a mineral feed assembly 20 is operable to heat lime mineral and thereafter advance the lime mineral into the upper end of the rotary vessel 16, 24. It is noted that the incoming mineral 20 passes inlet chute 12 and is indirectly heated by the exiting hot flue gas 40, 42, 22.

Claim Rejections - 35 USC § 103

4. Claims 1-25, 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bravold (U.S. Pat. 3,584,850).

Brandvold shows a mineral lime (CaO) processing inclined rotary kiln 12 with a lower combustion air end 14b and an upper material feed end 14a, 18, 20d. An air inlet opening 24e is located between two ends. A preheater or precalcining assembly 14 is positioned at the upper end 18. A stationary hood 14k is positioned proximate to the combustion air inlet lower end 14b and a burner 16a is proximate to the combustion air inlet lower end 14b. To operate the combustion rate at sub-stoichmetric ratio at the lower end and super-stoichmetric at the upper end is merely an obvious matter of fuel and air adjustment by the controls 32, 34, 36, 24 in order

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to obtain a complete combustion for clean air exhaust. This is well known practice in the combustion art.

5. Claims 1-25, 29 and 34 are rejected under 35 USC 103 as unpatentable over Tutt et al (U. S. Pat. 5,375,535).

Tutt shows a mineral lime (CaO) processing inclined rotary kiln 16, 24 with a lower combustion air end 30 and an upper material feed end 12, 20. An air inlet opening 56-60 is located between two ends. A preheater or precalcining assembly (at 20, 22) is positioned at the upper end 24. A stationary hood 32 is positioned proximate to the combustion air inlet lower end 36 and a burner 33 is proximate to the combustion air inlet lower end 36. To operate the combustion rate at sub-stoichmetric ratio at the lower end and super-stoichmetric at the upper end is merely an obvious matter of fuel and air adjustment in order to obtain a complete combustion for clean air exhaust. This is well known practice in the combustion art

Response to Arguments

6. Applicant's arguments filed 11/30/2004 have been fully considered but they are not persuasive to overcome the rejection. First, broad claims presented fail to structurally define over the prior art references. The arguments regarding the newly added limitations in claim 26 are not persuasive because the patent to Brandvold does show a preheater or precalcining assembly 22a is positioned proximate to the upper end 18 so that the incoming mineral passes inlet chute 20d and is indirectly preheated by the exiting hot flue gas 28 in vessel 22a. The arguments regarding the newly added limitations in claim 31 are also not persuasive because Brandvold does show a mineral feed assembly 22a is operable to heat lime mineral and thereafter

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advance the lime mineral into the upper end of the rotary vessel 18. It is noted that the incoming mineral passes inlet chute 20d and is indirectly heated by the exiting hot flue gas 28 in vessel 22a. Second, the arguments regarding the newly added limitations in claim 26 are not persuasive because the patent to Tutt does show a preheater or precalcining assembly 20, 22 positioned proximate to the upper end 16 prior to the rotary vessel 24, 28 so that the incoming mineral 20 is in indirect heat exchange relationship with the exiting hot flue gas 40 prior to the rotary vessel 24, 28. The arguments regarding the newly added limitations in claim 31 are also not persuasive because the Tutt patent does show a mineral feed assembly 20 is operable to heat lime mineral and thereafter advance the lime mineral into the upper end of the rotary vessel 16, 24. It is noted that the incoming mineral 20 passes inlet chute 12 and is indirectly heated by the exiting hot flue gas 22, 40, 42. Third, the applicant also argued that there is teaching to provide sub-stoichiometric and super stoichiometric combustion which the examiner has alleged to be well known in the combustion art in order to obtain complete combustion to maximize the efficiency fuel efficiency and reduce pollutants. The examiner hereby directs the applicant's attention to Baukal, Jr. et al. (U. S. Pat. 5,413,476), Col. 1, lines 43-51 which clearly illustrated the importance and the desire to have two stage combustion, e.g. sub-stoichiometric and super-stoichiometric combustion in order to maximize the efficiency fuel efficiency and reduce pollutants.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 703-308-2354. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 703 308-1935. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jiping Lu
Primary Examiner
Art Unit 3749

J.L.